Field Trip No. 1

Northern N.S.W., Darling Downs, Hunter Valley.

Sep. – Nov. 1936

K.H.L. Key

First Field Trip. [C1703] Sep.– Nov. 1936.

1

Northern N.S.W., Darling Downs, Hunter Valley.

Country as far as Yass much the same as Canberra. Beyond Bowning there was more bare ground. Got out just beyond Binalong & examined the roadsides (bare ground & short grass patches). Found no hoppers.

In Young district there were numerous red-earth patches, and the country was perhaps slightly drier, but not much. Examined roadsides just north of Young: found only a Tetrigine on the margin of a pool. Soil evidently more binding see cond. of road.

Towards Grenfell the country became distinctly drier, especially somewhat N. of Grenfell. The dominant eucalypt now became a rather tall semi-rough bark, little-peeling, E. microcarpa or E. Woollsiana ovate-leaved form, and a certain amount of E. sideroxylon ? × Hardly ever seen after Grenfell rough-barked mallee. Range of hills to left of road from before Grenfell for some way beyond. Ground beneath trees practically bare, no hoppers. (Photo 1)

(1st camp)

Date 1 [Description of site 1. Chortoicetes terminifera Top of hill, red earth, stony. Sparse growth of herbs & short grass in hollows. Few [illegible] at top in [illegible] cracked, but not very [illegible] mainly in thus [illegible] nymphs all over the [illegible] much-covered spots.] (Photos 2 & 3)

From Greafer on 20 Sept. (Callimi p. gracea) seem to be quite a common on the grass. Towards [illegible] beyond the country became mostly on prob.-quartz high. [illegible] red soil with limestone [illegible]

Tried for hoppers on roadside here - found none.

Surf. red soil till [illegible] frequently with limestone [illegible]. (or perhaps quartz?)

Site 2 A few miles beyond site 1, where country [illegible] flat. Here were two species hoppers, but in site 1, and there were many fungi. Only one or two specimens were noted. Old terminifera nymphs (one or two) presumably hibernated were also encountered, but no adults.

Site 3 A few miles N. of Black Hill. One or two fungi. None.

Site 4. A few miles from Karoonia on N-South Road. Trees [illegible] ft high on very sandy, light-coloured soil in side of railway (lunch site) large number of terminifera adults and one nymph. Also Psychopsiche sciabus, Urnisa guttulosa, Psychopsiche [illegible] nymphs. Also 3 [illegible] deck of [illegible] p. Crusio on [illegible] 48 ft by 27 ft in 9 lengthwise crusios observed 50 adults (high [illegible], 2 pm, clear day. Est. at least 1/50 ft.² (Some offers must be overlooked.) (Photos 4 & 5) Observations on fungi kept back to spare area. "Nature"

Chortoicetes terminifera

Psychopsiche sciabus, Urnisa guttulosa

one or two Monistria adult Monistria pustulifera inter p. pustulosa and p. mallee (R)

Site 5 Approaching Dubbo. Heard some hop. about two on roadside at [illegible]

A single hopper (1st - 3rd) in depressions where water had lain. Also some of Patent's observations in site 1. These hoppers were older (some in 3rd) than any previously seen.

[Between Park Hill & Narromine some 18" shrubs had come in there since fencing from time to time.]

Between Narromine & Dubbo a few Casuarina appeared for the first time.

Almost immediately N. of Dubbo became a change in the soil from red to dark red in places approaching black. This was completed with a radical change in the vegetation. Very heavy rough black soil grass with fine, shiny lancolate leaves represented obtaining since Geraldton for lack of other kinds appeared. Cleared & ploughed very considerably. ~~[illegible]~~ A little further on grass with slightly rough non-fuel bark like tree shaped Yarnfell came in, but the clearer of the rough bark type - lancolate shiny (rugmus-leaped bon)

I should not have called any of the soil as far as Gilgandra "black" soil. Made a stop ca. ½ way to G. on suitable-looking ground. Found one Heminifera (5pm. sluggish), very few hoppers indeed. Chap at hotel confirmed this to not black soil country.

Observations upon trip so far :-

1. It is noticeable that (1) S. of Parkes, or thereabouts, there were no hibernated terminifera, or if there were, they were few & not noticed. At Parkes there were adults & nymphs, mostly nymphs. At Narromine (site 4), adults were numerous, nymphs very rare, & this was true also of Dubbo (site 5). Similarly, at Parkes (1 & 2) all pingi nymphs were very small, almost entirely 1st. Same at Peak Hill (3). By Dubbo these nymphs were larger (1st to 3rd) while the Eulargambone infestation prove to be these nymphs larger still? [not. K.K.]

2. Terminifera ~~nymphs~~ adults were found on all soil types (stony red (1), sandy (4), non-stony red (5) & we know they come from black soil country. Egg habits thus do not seem conditioned by soil comp. Note that usual areas of prevalence are 1) summer rainfall areas, 2) relatively mild winter, high temp. early spring areas., these conds. permitting (both long season & summer rain) of several annual generations.

3. Terminifera, in its centres of origin, is capable of hibernating, or at least overwintering in very consid. nos. in adult or late larval stages. This provides an

alternative means of survival to egg-overwintering. A season favourable to overwintering adults may result in great additions to hopper nos. ca. Dec., when eggs from these hatch. Such hoppers may thus arise in places where there was no oviposition the previous year. We have to find out whether the adults found near Dubbo are the remnant of scattered swarms of 1935, or the result of a new population increase. In other words 1) were eggs deposited in this area in 1935, 2) was poisoning thorough.

4. No terminifera hatching this year from eggs were anywhere observed.

Side-track to Collie – Two new green low-branched trees (Wilgalle) (wilga) one bright-leaved tree (Kurrajong) & three much more mixed.

Gilg. to Coon. Few off trees seen to Collie. Gums tall & slender & dense (my photo). Many Callitris. Towards hills ~~gre~~ bright-leaved tree much in evidence.

Steb. ½ way to Coon. Scattered adult term. Rect. no hoppers. Roadside, red sandy earth, scattered low spreading grass. Leica 6

Very little terpent here we began to climb the hills & the soil became blackish

Aiolopus tamulus, Chortoicetes terminifera

site 7. Perhaps 5 mo beyond site 6. Soil dark, pasture very short, heavily grazed. Plenty of term. adults – ca. twice as numerous as near Dubbo. No nymphs observed but not looked for carefully. Trees mostly ring barked. ~~Pho~~ Leica 7 – X2.9

Reached Coon, where Mel. had just arrived. Joined P.P. meeting & made notes (qv.). Examining properties at Bugaldie & Gooriawa. Property of Meltamis was most heavily infested. There were flyers, ca. as dense as in site 7 or denser. Numbers of these were laying eggs in ~~dark~~ firm red soil, but easily broken with knife. At same time there were hatchings all round, and dense aggregations of hoppers almost completely covering the ground for areas a few yards square. Several such areas in a large slightly sloping, short pasture paddock. At Gooriawa infestation was lighter but more extensive. Birds had been at work. Large area covered. A different hopper, either Oedaleus or Gastrimargus was observed in small nos. on this area in 1st instar. Further on there was a paddock with a few infested patches where I took Leica 11.

Wednesday Proceeded to various points near Baradine, among Pilliga scrub (Callitris.) A few

hatching hoppers observed. On another property saw them fairly thick on margins of creek (Leica 12). Baiting had been carried out. Second (smaller) collection of young hoppers made here. Passed through gap in Warrumbungles & reached Gooriamawa. Black soil country from here to Coonamble. Goor. property had largest groups of hoppers yet encountered, coming patches perhaps 10yds long in several places. They were confined to "red soil ridges" in the middle of the black soil country, where there were "scalded" patches, which seem to be invariable characteristics of egg-beds. The typical soil is not very hard or binding, but firm sandy red soil, easily broken with a knife. (Leica 13-15). Further on we reached more typical egg-bed country, which, however had no extensive hatch. Small nos. of term., fungi & pseudla. Leica (16 & 17). On road to Coonamble another spot was encountered on purely black soil where adults were perhaps more numerous than in any previous site were pairing extensively (4 p.m.).

Dean's

McCarthy regards this as an extremely

light infestation - nothing to worry about. Many hoppers would die of starvation unless there were rain. He feared no outbreak.

General impressions:-

Trip was designed to enable me to be shown the hoppers with McC. It was quite unduly hurried. In such cases of hurry camping is out of question. No good purpose would be served by further visits except with a definite experimental plan to cover a long period. Camping would only be desirable if travelling short distances. Equipment must be cut down if poss, & dust eliminated.

24/9 48 gals Coonamble 2/3
25/9 7 gals Gillaroween
26/9 3 gals Mungindi ~~Baradine~~ 2/5

10 gals. Forbes 2/3
7 " Gilgandra 2/3
7 " Coonabar. 2/3
23/9 5 " Baradine 2/3

21-22/9 Supper, bed & b. Gilgandra rcpt. 22/9
22-23/9 lunch, supper, breakfast Coon.
23-4/9. supper, b&b. Coonamble
24/9 lunch Coon 2/6 phone 4/8 wire 1/9.

2/19. Return to Board at Encinitas. Some late of flyers all thro' winter, hatching were "[illegible]" (ask Mr. C.) in [illegible] Cos. [illegible]

Site 8 Camp ca. 20 m. N. of [illegible] on black soil, sparse [illegible] low semi-succulent [illegible]. A very few [illegible] term., a few Perelystrana nymphs some adult male recently mature (My photos of cars)

Site 9 Few 100 yds. further on. Scattered patches of light-colored soil with [illegible] of mainly Helianthemum. Numerous [illegible] Austroicetes pusilla in quite dense pop. Two adults [illegible] blue. One adult and fungi nymph. Same scattered term. as in site 8. Soil sample. [Leica A?]

Site 10 A little further on, on [illegible] soil where there was a patch of [illegible] term. Chortoicetes terminifera with as numerous as another [illegible]. Two adult Perelystrana sp. n., Diolopus tamulus Perelystrana - Nr. nymphs.

Higher [illegible]

Coming from Encinitas to Escondido becomes progressively denser. Trees become taller & shorter (Coolibah) (ca. 25 - 30 ft av.). On clear ground in very sparsely covered, in others fairly thick with low semi-succulent [illegible]. Thick with high tufted grass of (Mitchell) (?ft.) Apparently rain in this high Saso country, however it is dry. C. term. as scattered adults throughout whole distance from Cosm to Escondido.

Chortoicetes terminifera

$\frac{1}{2} - \frac{1}{3}$ of

Chortoicetes terminifera

Side 14

Identified as the "Galwaniid" rally party, Barcia Birchii, F.v.M.

(Prop. ben. + buddal + [illegible])

(?)

Chortoicetes terminifera

[illegible]

(Upper Non)]

Reflections.

[illegible]

[illegible]

[illegible]

Moraba cultrata cariosima (R); [illegible]

Chortoicetes terminifera

[illegible] Moraba cultrata cariosima (R)(n). [illegible]

Site 85

N

3

(Leica 33 + 34 :— Swarms in flight, part upfrom eggbeds.)]

Moraba cultrata carissima (R)(n)

Chortoicetes terminifera

(5)

, Chortoicetes terminifera, Austroicetes pusilla

Chortoicetes terminifera

(10) [illegible] from [illegible] [illegible] on ca. 2nd [illegible] left [illegible] 29th [illegible] in [illegible]

E [illegible]

[illegible]

on [illegible]

[illegible]

Aspidella fasca

[illegible]

Site 32. Ca. 2

Chaetoicetes terminifera

Oct. 18th.

Moraba cultrata carcinoma (R),

(sample 36a)

6

(Gastri.)

1x

[illegible]

E of [illegible]

W of [illegible]

S.T.

[illegible]

[illegible]

[illegible]

[illegible]

Original [illegible]

[illegible]

Shortly after [illegible] left Hill 97 [illegible] a [illegible]
[illegible] December

[illegible]

[illegible]

[illegible] N. [illegible]

that [illegible]

NW [illegible]

for [illegible] 3

Now at Trip to Tenaro. [illegible]

uniform [illegible] (Tenaro) [illegible]

a [illegible] [illegible] with [illegible]. [illegible]

[illegible] [illegible] [illegible]

Country [illegible] [illegible] [illegible]

places. Similar to [illegible] [illegible]

action. Slightly hilly [illegible] [illegible] and

65 [illegible]. [illegible] [illegible] [illegible] (Tenaro) [illegible] 5m

from Tenaro, [illegible] [illegible] [illegible] most

[illegible]-[illegible] [illegible]

[illegible] 8 [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible]

Irrigation

(go to 63)

[illegible]

13 hrs. [illegible] sand [illegible] for bed
[illegible] down. Then after [illegible] of [illegible]
[illegible] light [illegible] on [illegible]
left [illegible]. [illegible] from [illegible] to [illegible]
heavily [illegible]. [illegible] clearing [illegible]
[illegible] [illegible]). [illegible]
[illegible] [illegible] [illegible]
7 hrs [illegible] [illegible] to
[illegible] for ca. 2-3 hrs. [illegible] black,
with [illegible] [illegible]
17 hrs. [illegible] found [illegible] (on [illegible])
[illegible] [illegible] sand ridge at 25 hrs. [illegible]
[illegible] [illegible]) sand ridge at 27 hrs.
sand ridge at [illegible]. [illegible] black [illegible]
[illegible]. sand ridge at 31 hrs. [illegible] more
[illegible] [illegible] black. [illegible]
ends of 31 hrs. [illegible] [illegible]
[illegible] [illegible] to [illegible] black and
[illegible] [illegible] of [illegible]. [illegible]

1.)

Bogabilla 82m. to Moree

Patch dark gray soil at 10. then sandy loam again

85.4 lighter sandy loam to 86.8 with several small patches dark gray, then dark gray in open grassy plain with occasional light patches

[illegible]

91.2 Pond ridge.

Dark [illegible] Creek

[illegible] loam soil [illegible]

[illegible] the creek [illegible]

[illegible]

[illegible] 97.

[illegible]

Very small bluff [illegible] at 101.8 - followed [illegible] 102. [illegible]

[illegible]

5.5 [illegible] bluff soil, open [illegible]

Tr 8 [illegible]

[illegible]

11.6 Tuloma bluffs.

Very heavy bluff [illegible] 111 116.

~~10.5~~. Thin open bilk and plain in Scattered
pumps [illegible] N.B.W.T.
12.5. Scattered [illegible] of [illegible]
26.6 Sand ridge
31.3 Sandy loam ridge [illegible]
32. Timber in [illegible] unplanted [illegible] Sand
[illegible] Below Wilpena Creek
37. Small sand ridge then dark grey
with pumps by Yellow Box.
38.3 Sand ridge.
39 Sand ridge. Sandy loam in open
savanah by Mooraba Bush.
41. Dark grey.
42.3 Sand ridge.
43.6 Mixed soil, nearly treeless plain in 3-4 ft
access.
44 Coolibah Ridge.
Sandy loam.
51.2 Dark grey - open thorn acacia scrub.
52.2 Sandy loam.
54. Dark grey bilk - good pasture.
56.0 Tank.

Note 3 [illegible]

Note 4 [illegible]

Note 4½ [illegible]

Moree from [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

belt.

Dark [illegible]
[illegible] quite.

1.150.

17.

21.

25. ~~Sept 43~~

Crasspedia chrysantha (?) 71 Hedypnois cretica (L.) Willd.
Trichinium obovatum, Lanrich
Daucus glochidiatus (Labill) Fisch.

6in - 1 ft.

Site 44. 40.6 hrs.
Chortoicetes terminifera

Hordeum murinum L. (barley grass)

Last [illegible]

(this might be types 2 & 3)
ca. 28 – 35 & ca. 57 – 61. (3) and black
flow, ca. 37 – 45 & ca. 61 – Jaramillo.

Austroiuctes pusilla

[illegible] Genus No. 2, Austroicetes pusilla

48:2

Chortoicetes terminifera

WASH.

~~Mrs Dingeldi~~

24.7 light polish
25.7 Sch. 11

[illegible]

[illegible], Austroicetes pusilla, Prasiculus ~~laminatus~~ actus (R)

Prasiculus

Prasciluelus

Tiparga crassa

9

59a.

Botanical notes :—

Rolly-pollies.— ordinary, Bassia quinquecuspis, F.v.M.; galvanised, Bassia Birchii, F.v.M.

Grass from site 44 : barley grass, Hordeum murinum, L.

Local yellow Helichrysum on which Perunga was found : Helichrysum apiculatum (Labill) D.C.

"For Bison" see series of photos in material belonging to Bulletin 156 (Published as Pl. 4. figures of that Bull.)

24.

29.

23.

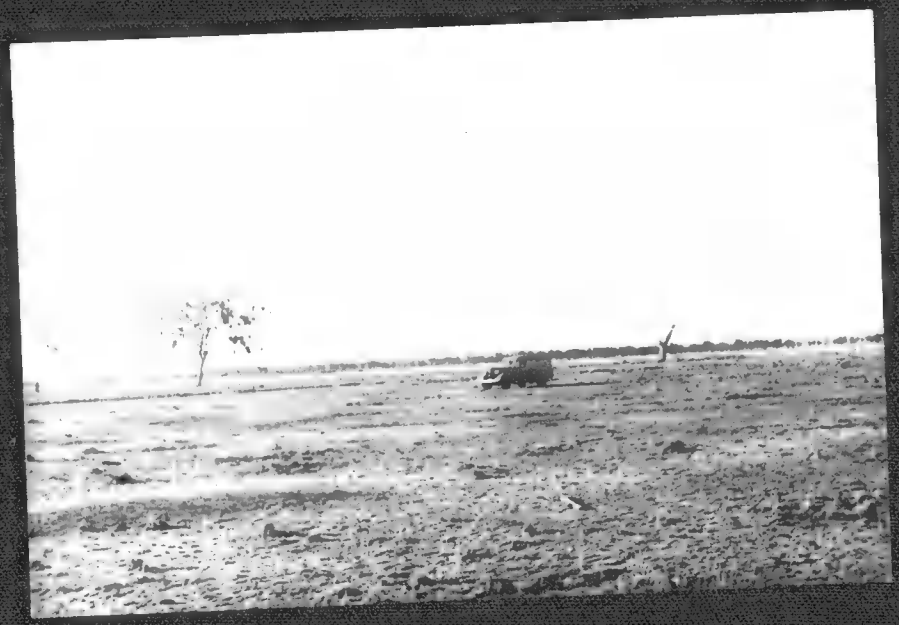
28.

22.

27.

For "Leica A" see series of photos in material relating to Bulletin 186 (Published as Pl. 4, fig. a of that Bull.)

25.



3.

37.

Oct. 1936.

35.

from 33 Swamp

from

34.

33.

32.

31.

30.

5.

Leica 4: Site 4. a few miles E. of Warrumbungle. Numerous ovi-positing adult of terminifera. 21/9/36.

10.

Leica 9: Site 7. (see Leica 7 & 8)

4.

Leica 3. Close-up of depression at Parkes (see Leica 2)

9.

Leica 8: Site 7. Numerous adult terminifera.

6.

Leica 5: Close up of same.

8.

Leica 7: Site 7. Numerous adult terminifera 22/9/36. Warrumbungle foothills.

7.

Leica 6. Site 6, foothills of Warrumbungle Mts, between Gilgaitha & Coonabarabran. Scattered adult terminifera. Kurrajong trees. 22/9/36.

21.

Leica 19: N. of Wagga. Low buffy grass. Scattered kurrajong a bush

18.

Leica 14: Band of hoppers near Goonianwa, Coonabarabran district.

15.

Leica 17. Close up of scalded patch shown in Leica 16, showing salt-bush.

17.

Leica 13: Hoppers in Coonab. district. Sep. 1936.

14.

Leica 16: Typical egg-bed on scalded patch near Goonianwa. Sep. 1936.

12.

Leica 12: Creek on banks of which hoppers were hatching — Coonabarabran district, Sep. 1936.

19.

Leica 15. Same as Leica 14

11.

Leica 11. Band of hoppers in Coonabarabran district. Sep. 1936